



Case Study

CITY OF HONOLULU

Industry: Municipal Wastewater

Problem: Hydrogen sulfide gas odors

Better Performance at Lower Cost

Business Overview

The City of Honolulu operates the Halekou Lift Station which pumps, on average, 35,000-50,000 gallons per day which, in turn, feeds into the Aikahi Wastewater Treatment Plant. The lift station is located in the Kaneohe neighborhood on the windward side of Oahu. The city is, of course, an extremely attractive tourist location, so when area residents began complaining of significant odors coming from the station, officials responded.

Challenge

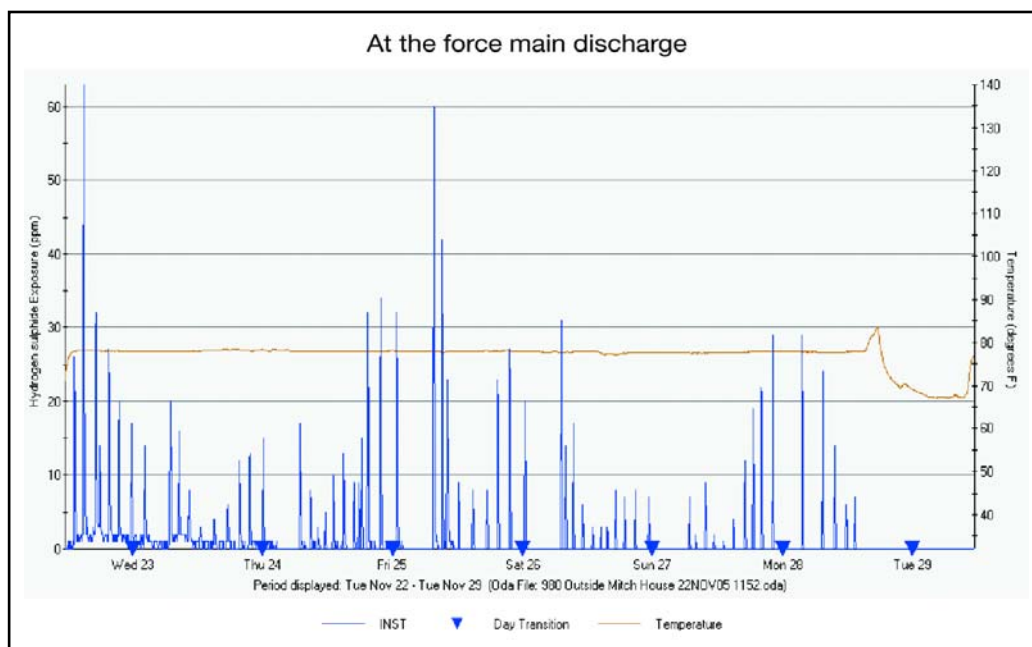
Wastewater engineers decided to treat the odor problem caused by hydrogen sulfide (H₂S) gas, with a commonly used, but hazardous chemical, ferric chloride. They began the dosing regimen at 3.0 gallons a day and eventually increased that amount to 6.0 gallons per day. They measured the H₂S levels at the force main discharge, using an Odalog hydrogen sulfide gas detection measurement and datalogging device. At a dosing level of 6.0 gallons per day, the average reading was 1.33 parts per million (ppm), with peaks in the 20-30 ppm range. Complaints from area residents continued.



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Graph 1: Benchmarking data showed an average of 1.33 ppm of hydrogen sulfide gas at the force main discharge, with peaks considerably higher.

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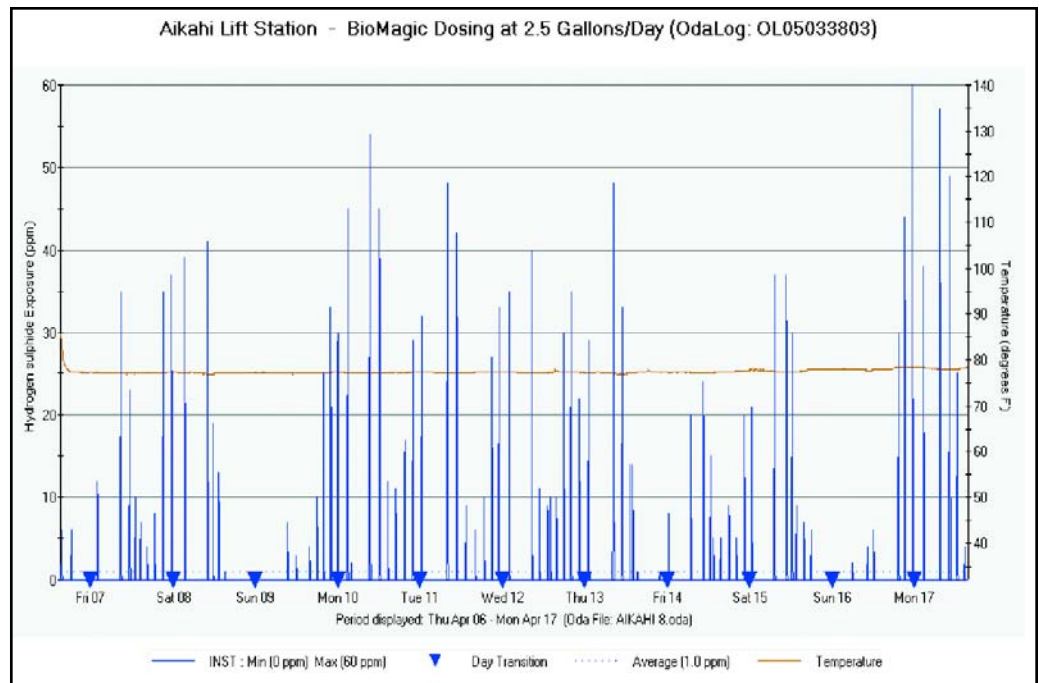
BioMagic Solution

BioMagic was asked to determine if M6 BioOdorStop could reduce the H₂S reading to acceptable levels, eliminate the odor complaints and do so economically. Very important to municipal engineers, could BioMagic do this with a product that was non-corrosive and not hazardous to handle. Ferric chloride is known to cause corrosion damage to the infrastructure and the city was paying significant overtime costs to monitor the tanks and pumps on weekends and holidays to prevent corrosion damage from the ferric chloride treatment.

M6 BioOdorStop was delivered via a continuous dosing pump into the lift station wet well. The dosage was set at 2.5 gallons per day, continued for a 30-day period and the H₂S data was recorded on an Odalog hydrogen sulfide gas detection measurement and datalogging device.

Results

Treatment with 2.5 gallons of M6 BioOdorStop per day reduced the average H₂S reading to 1.0 ppm, well below the benchmark of 1.33 ppm established by the city. More significant was that once treatment commenced, the city received no more odor complaints from residents.



Graph 2: The average hydrogen sulfide level after BioMagic treatment is 1 ppm, much better than the benchmark.

The benefits to the city and its residents are evident.

- Reduction of H₂S levels to acceptable levels
- Elimination of odor complaints from residents
- Decreased product volume of 59%, resulting in less storage space required
- Reduction of handling costs for delivery and maintenance
- Elimination of the use of a hazardous, corrosive product
- Cost reduction with improved performance

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Issues	Ferric Chloride	M6 BioOdorStop
H ₂ S Reduction	1.33 ppm	1.0 ppm
Odor Complaints	Yes	No
Infrastructure Damage	Yes	No
Corrosive/Hazardous	Yes	No
Storage	180 gallons per month	75 gallons per month
Usage	6 gallons per day	2 gallons per day
Conclusion		<ul style="list-style-type: none"> • 59% less volume • 27% product cost savings • No hazardous material handling expense

About BioMagic

We develop and manufacture engineered solutions for the control and elimination of organic waste odor and the reduction of solid waste. Our products are primarily used to control odor and infrastructure damage caused by hydrogen sulfide gas and other odor-causing compounds.

Simple, effective and environmentally friendly, our solutions oxygenate the setting—accelerating the natural cycles of waste elimination. Our bio-stimulants are equally effective in liquid or solid waste conditions.

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